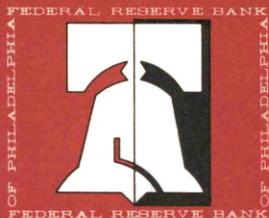


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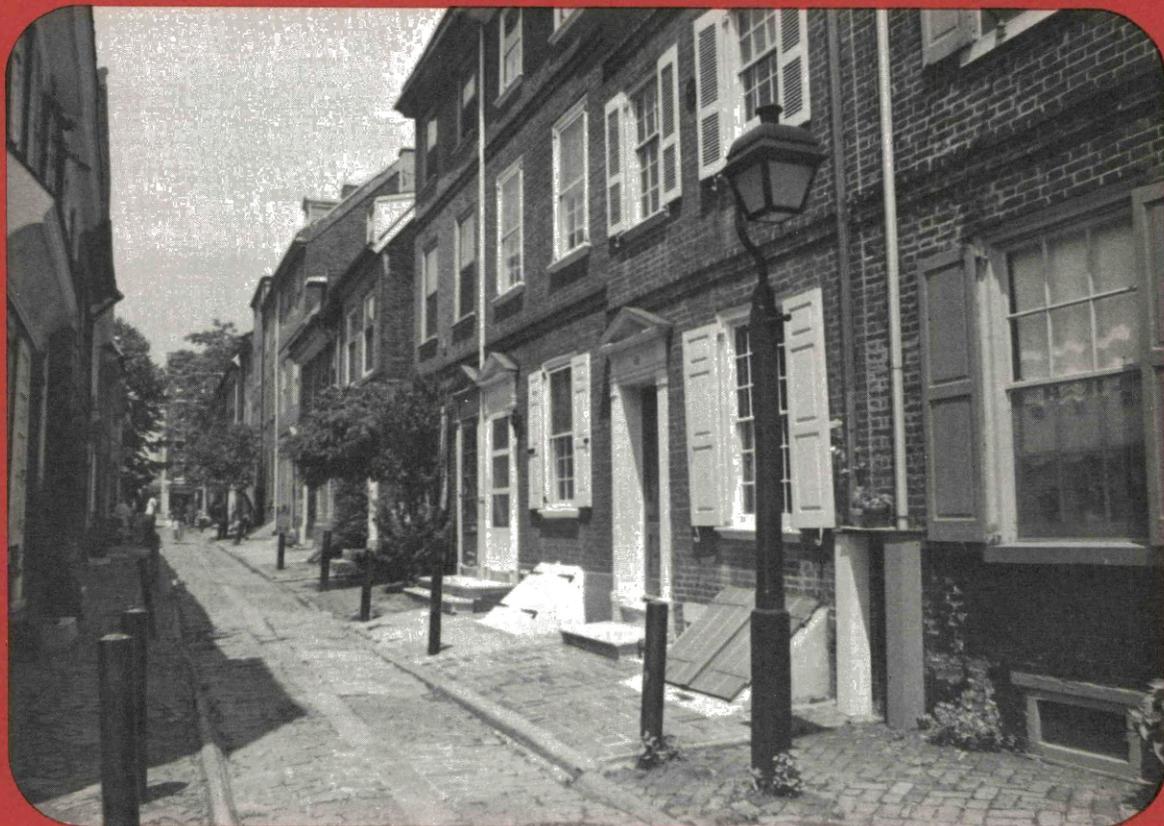
Criminal Behavior and the Control  
Of Crime: An Economic Perspective

Philadelphia Sings the Inflation Blues

Small Bank Survival: Is the Wolf at the Door?

**FEDERAL RESERVE BANK of PHILADELPHIA**

# business review



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. . . Analysis of banking statistics in the Third District suggests that the entry of large banks into smaller communities via merger does not appear to threaten the existence of smaller banks.

**On our cover:** Located in Philadelphia between Front and Second streets and in the shadow of the Benjamin Franklin Bridge is Elfreth's Alley, believed to be the oldest street in America with dwellings on both sides. Opened shortly before 1702 and named for Jeremiah Elfreth, the block-long passageway was the home of carpenters, craftsmen, and printers during colonial times. Benjamin Franklin, Prince de Talleyrand, and Stephen Girard once resided there. (Photograph by Sandy Sholder.)

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# Criminal Behavior And the Control Of Crime: An Economic Perspective

*By Timothy H. Hannan*

Crime is rational! People who engage in crimes such as burglary and robbery do so because they are the best "occupations" available to them. Sound strange? This is the view of a small but growing number of economists who have recently invaded the traditional turf of sociology and criminology to apply economic principles to the analysis of criminal behavior.

To refer to crime as rational is not to excuse those who engage in it. Crime, however, is an unfortunate fact of life, and if there is an element of rational choice involved in the decision to engage in criminal activity, then such information can prove valuable in determining which policies are likely to be effective in the control of crime.

## **CRIME AS A CHOICE**

Economists have long viewed people as mak-

ing, in their own estimations, the best choices among available alternatives. A consumer who chooses margarine over butter does so either because to him it tastes better, its price is lower, or both. Given a choice between bricklaying and farming, a worker chooses bricklaying either because he would rather lay bricks than plant corn, because bricklaying pays better, or both. People try to choose the best options available to them, and decisions to engage in many different types of criminal activity may simply be another example of this type of behavior. Crime, whether it is motivated by the desire for income or some nonmonetary gain, can be thought of as a choice, and as economists would have it, that choice in many cases may be no less rational than the everyday choices people make in determining what products to buy or what occupations to pursue.

The fact that crime is illegal and carries the

possibility of a fine or prison sentence need not imply that the decision to engage in it is irrational. After all, the world is filled with people who have voluntarily chosen "risky" occupations over relatively safe ones. Jet pilots, steeplejacks, and matadors all face the possibility of disaster in their chosen occupations. Yet, to conclude that their choice is irrational is to disregard the relative gains and costs that they derive from their chosen occupations. All things considered, a "dangerous" occupation may be the best available alternative, and the decision to engage in crime need not be an exception.

It is true, of course, that people are often not certain of the consequences of their behavior and may make choices which later prove to be mistakes. Because they choose a course of action without full information, some criminals may incorrectly weigh the advantages and disadvantages of engaging in crime, as opposed to pursuing the "straight and narrow." A mugger or burglar on his first job can be "collared" and sentenced to many years in prison. But such an occurrence may simply be the result of an incorrect but rational decision made on the basis of incomplete information. Like the test pilot who crashes or the businessman who goes bankrupt, the criminal can make rational choices that later prove to be mistakes.

None of this denies that some people are more emotional than others or that rational choice plays less of a role in some types of crime than it does in others. Many who engage in the so-called crimes of passion, for example, may be devoid of all reason and rationality, but it is by no means obvious that *all* such offenders act with complete disregard for the consequences of their behavior. If this is true, then viewing the criminal as rational can have at least limited applicability even to the most violent or impulsive of crimes.

### CRIME: THE GAINS AND THE COSTS

If this approach has merit, what are the gains and costs associated with crime that are likely to influence the individual's decision to engage in criminal activity? Consider first the gains of crime. Criminal gains can be thought of as both

monetary and nonmonetary in nature. In crimes such as burglary and robbery, monetary rewards clearly play a dominant role in determining the attractiveness of crime relative to other pursuits. All other things equal, a million-dollar "take" is better than a hundred-dollar one, just as a higher-paying occupation is more attractive than a lower-paying one if everything else about the two jobs is the same. But nonmonetary gains of crime can also be important, particularly in the case of crimes not motivated by the desire for property or income. Just as people differ in the degree of satisfaction they derived from bricklaying or farming, so too do they differ in their tastes and attitudes toward criminal activity. Some people may actually enjoy the thrill of the chase or impressing friends with the number of cars they steal or the number of purses they snatch. Others obviously do not.

There are also significant costs of crime which may weigh heavily in the decision to engage in it. One relevant cost, particularly in the case of property crimes, is the "wage rate" or monetary gain that individuals can earn in legal employment compared with the amount they can "earn" in illegal activity. If people choose to support themselves by criminal activity, they are forfeiting the wages they could have earned working on construction sites or waiting on tables. In other words, one of the costs of crime is the "opportunity cost" of foregone legal earnings. Since some people can earn very little in legal employment, criminal activity is in a very real sense "cheaper" for them than it is for those whose legal options are more rewarding, and involvement in certain types of criminal activity may vary accordingly.

Other costs may also be incurred in criminal activity. Both the probability of being arrested and convicted and the length of jail sentences meted out to convicted offenders are costs that directly influence the attractiveness of crime, and these costs too may vary significantly among individuals. The probability of an individual being convicted for an offense will clearly depend upon his skill in avoiding arrest or his ability to "beat the rap" once arrested. The cost of a prison sentence may also be greater for some

people than for others. Some people may consider imprisonment and the social stigma associated with it a heavy burden, while others find it more bearable. Perhaps more important, the enforced unemployment involved in a prison sentence will result in a greater loss in income for some people than for others. Highly educated people, for whom high-paying jobs are available, will find a prison sentence much more costly than it is for low-income people, and the decision to engage in crime may reflect such influences.<sup>1</sup>

Thus, the decision to engage in crime can be viewed as a subjective weighing of gains and costs, like many other decisions encountered in daily life. Since the gains and costs associated with crime vary with a person's attitudes and the legal and illegal options available to him, different levels of criminal participation are to be expected for different types of people. While crime is clearly unattractive to most members of society, many categories of crime may be, to put it bluntly, the best available alternative as perceived by some individuals (see Box).

### THE ECONOMIC APPROACH: WHAT DOES IT EXPLAIN?

Theories are all well and good, but is the economic approach to criminal behavior supported by any evidence from the real world? What, if anything, can it explain or predict? Although theories can never be totally proved by observing what goes on in real life, the economist's view of criminal behavior does seem to jibe well with a number of observable facts.

**The Role of Legal Opportunities.** Consider first the role of legal opportunities in the decision to engage in criminal activity. Crime can be thought of as "cheaper" for the low-skilled and the underemployed than it is for the more affluent members of society. Therefore, faced

<sup>1</sup>There are, however, some positive aspects of imprisonment. Incarceration means free room and board for those confined, and this feature of imprisonment sometimes seems to outweigh the costs when, for example, drunks prefer jail to pounding the pavements on skid row.

with a decision to engage in a crime of a given "payoff," individuals who can earn high incomes legally should be less likely to succumb to temptation than those for whom legal opportunities are less rewarding. Put simply, they have more to lose. This prediction does seem to be borne out for many types of crimes. Presumably, bank presidents can rob liquor stores just as well as can impoverished residents of big-city ghettos. Yet, the fact that bank presidents generally refrain from such activity, while ghetto residents often do not, is at least consistent with economic prediction.<sup>2</sup> Other explanations are clearly possible and cannot be discounted. Yet, the widely observed fact that low-income people engage in crimes such as burglary and robbery in higher proportions than high-income people is consonant with the economic view of criminal behavior.

**The Role of Punishment: Does It Deter?** More support is available in reference to the deterrent effect of punishment. The role of punishment in deterring criminal behavior is an area in which economists and sociologists have often parted company. Many sociologists and criminologists have tended to view the criminal as "sick" or "abnormal" and therefore relatively unresponsive to costs. According to one advocate of this position:

Certainty of punishment and detection may deter the normal person who thinks about his actions and the consequences, but the criminal mind does not operate like a normal mind. The criminal often acts irrespective of the consequences, learning little from experience and living for the present.<sup>3</sup>

Economists, of course, lean toward the opposite view, predicting that the prospect of punish-

<sup>2</sup>Certainly people capable of earning high legal incomes can and do engage in embezzlement and other white-collar crimes, but this is presumably because the "payoffs" to such crimes are often very high and the probabilities of being caught are often quite low.

<sup>3</sup>Joel Meyer, "Reflections on Some Theories of Punishments," *Journal of Criminal Law, Criminology and Police Science* 59 (1968): 597.

## DOES CRIME PAY?

The age-old question of whether crime pays has been asked anew by economists and has, in fact, stimulated a number of recent economic studies. The primary problem with a number of studies which have attempted to answer this question is that not all of the gains and costs of crime can be measured. It is not possible, for example, to measure directly the nonmonetary gains to the criminal of illegal activity or such nonmonetary costs as the loss in freedom associated with a prison sentence or the stigma suffered by criminals as a result of social disapproval. Nevertheless, a number of economists have tried to quantify the monetary gains and costs for a number of crimes and have found that, at least in strict monetary terms, criminal activity may well represent the best available alternatives for some people.

Such studies are generally limited to calculating the average net income obtained from certain economically motivated crimes and comparing the results with an estimate of the monetary loss typically suffered from punishment over time. Monetary losses from punishment are in the form of fines and foregone legal earnings resulting from a prison sentence. The table below presents one estimate of the monetary gains and costs calculated by economist William E. Cobb for those people who participated in the crimes of burglary and robbery in Norfolk, Virginia during the years 1964 and 1966.

Year	Monetary Costs of Punishment (Fines, plus Income Lost As a Result of Incarceration)	Monetary Gains From Theft
1964	\$153,813	\$290,339
1966	128,072	460,121

These estimates of the monetary costs of punishment are quite low because the typical thief was expected to command only a low wage in legal employment and suffer from high rates of unemployment.\* Although not all of the gains and costs of crime can be measured, results such as these lend some support to the view that for some people—particularly those with few marketable skills—certain types of crime may indeed pay.

\*See William E. Cobb, "Theft and the Two Hypotheses," Simon Rottenberg, ed., *The Economics of Crime and Punishment* (Washington: American Enterprise Institute for Public Policy Research, 1973), pp. 19–30.

ment, by raising the cost of crime, will cause fewer crimes to be committed.

In the end, this issue can be resolved only by looking at the evidence, and what evidence is available seems to substantiate the view that criminals, like other people, respond to the costs of their activities. A number of statistical investigations of the question have appeared in recent years, and nearly all have shown a strong deterrent effect of punishment, not only for property crimes, but when investigated for personal crimes as well.<sup>4</sup> In general, crime rates appear to be more sensitive to the probability of conviction than to the length of prison sentences, but even the length of a prison sentence is generally found to deter crime.

Such findings should hardly be surprising if one reflects on what usually occurs in the wake of a natural disaster such as a flood or hurricane. In such situations, property owners and enforcement authorities are often not around to protect property against those who would steal and loot. The probability of being caught for an offense declines dramatically. Consequently, stealing and looting often rise sharply, with even normally law-abiding citizens getting into the act. Such a response to the dramatic reduction in the cost of crime is very much in line with the economist's view of criminal behavior. In such situations people do not suddenly become "sick" or "abnormal"; they are simply making different decisions in response to a rather dramatic change in "prices."

**The Problem of Repeaters.** As a final example of something which may be fruitfully explained

<sup>4</sup>Indeed, a study by Isaac Ehrlich has found that personal crimes such as rape and murder were deterred by punishment just as effectively (or perhaps even more so) than were a number of property crimes. Many may find it hard to accept that punishment can actually deter the so-called crimes of passion, and more research using better data is clearly needed to settle the issue. For examples of studies which have attempted to measure the deterrent effect of punishment, see Isaac Ehrlich, "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation," *Journal of Political Economy* 81 (1973): 521-65; Morgan O. Reynolds, "Crime for Profit: The Economics of Theft," unpublished Ph. D. thesis, University of Wisconsin (1971); and David L. Sjoquist, "Property Crime and Economic Behavior: Some Empirical Results," *American Economic Review* 63 (1973): 439-46.

by viewing the criminal as a rational decision-maker, consider the age-old problem of recidivism—the repeated relapse into criminal activity. As is well known, many people convicted and imprisoned for criminal offenses return to the life of crime almost immediately upon release from confinement. To such people, the prison gate is a "revolving door" through which they will predictably return time and time again. Many cite such records of repeated convictions as evidence that criminal behavior is irrational. Why shouldn't such people recognize the errors of their ways and realize that crime doesn't pay?

The answer to this question from an economic viewpoint is that when expected gains and expected costs are taken into account, crime may very well pay even for the person who has served several prison sentences. Suppose that prior to his first conviction, a potential offender subjectively weighs the expected gains and costs of criminal activity and rationally concludes that it is worthwhile for him to engage in an illegal act. If after conviction and imprisonment nothing has happened to reduce those expected gains or increase those expected costs, it should not be surprising to see him return to a life of crime after release from confinement. Of course, the expected gains and costs of an additional offense can change as a result of a prison sentence. On the one hand, the cost of an additional offense may increase if longer prison sentences are given to those convicted for a second time. On the other hand, if the repeat offender obtains criminal skills in prison that reduce the probability of his being arrested for a criminal act, or if his opportunities in legal employment are reduced because of the stigma of being an "ex-con," then the costs of engaging in illegal acts may actually decline as a result of a prison term. Thus, the rather high rates of recidivism in the United States may also be explainable by viewing as rational the decision to engage in crime.

## THE ECONOMIC APPROACH: THE WHOLE STORY?

Although the economist's conception of crime seems to explain a good deal, clearly it cannot

explain everything. For example, why do some individuals choose the life of crime, while others, faced with the same legal and illegal opportunities, refuse to engage in any illegal acts? Economists can no more answer this question than determine why some people, faced with the same set of prices and income, choose margarine instead of butter while others do not; or why, faced with the same wages, some people choose bricklaying over farming while others make the opposite choice. "There's no accounting for tastes." In the economics of crime, as in many other areas of economics, economists must accept tastes as given.

Differing tastes for criminal activity do not negate the usefulness of this approach, any more than do the differing tastes for margarine refute the economist's prediction that with a rise in its price, less of it will be purchased. It does, however, leave many tough questions for others to answer—questions that would seem to be of particular importance in fully explaining the more violent types of crimes. Why do the nonmonetary gains of some crimes differ so sharply from person to person? Why are the nonmonetary "costs" associated with the loss of freedom or social disapproval higher for some than for others? Questions such as these are important, but best left for sociologists or criminologists to ponder.

## THE QUESTION OF POLICY

From the "hardliners" to those who advocate abolishing prisons, there seems to be a great diversity of opinion concerning what to do about the soaring crime rate and those who are responsible for it. Although the economist's conception of criminal behavior has its limitations, it can make policy decisions about crime a little easier by laying out alternatives a little more clearly.

**What Can Be Done to Control Crime?** If the criminal is not totally irrational or "sick," then illegal acts can be deterred either by decreasing the gains to such activity or increasing the costs. Efforts to reduce the gain to crime are well known in the private sector: people avoid "bad" neighborhoods at night, some take taxis instead

of subways or buses, and many carry only small amounts of cash. But reducing crime by raising costs of criminal activity is usually more relevant for governmental action, and in this area economics has something to offer both to the "get-tough hardliners" and to those who, for humanitarian reasons, wish to improve the lot of the criminal offender.

Consider the ways in which criminal activity can be made more costly to the potential offender. The first and perhaps most obvious method is simply to raise the direct costs of criminal activity—the probability of arrest and conviction and the severity of punishment. In other words, crime can be reduced by devoting more resources to police departments and by handing out stiffer sentences to individuals arrested and convicted.<sup>5</sup> But another means of raising the costs of crime is also available. Since one of the costs of participating in criminal acts, particularly those motivated by the desire for income, is the foregone earnings obtainable in legal pursuits, costs can also be increased by making legal activity more attractive. This implies that crime can be reduced by devoting resources to education and training or by increasing job opportunities in high-crime areas.

Thus, what may appear to be two widely differing approaches to crime control can be thought of as simply two alternate methods of raising the costs of crime, and the two approaches need not be mutually exclusive. Both sets of policies can be pursued simultaneously to reduce the number of criminal offenses.

**How Much Crime Control?** Closely related to the question of *what* to do to control crime is the question of *how much* should be done to control it. Certainly if enough of the economy's scarce resources were used to expand police, court, and correctional activity, or to improve the legal opportunities of criminal offenders, crime could be drastically reduced or perhaps totally eliminated. Does this mean then that governments should hire a hundred policemen for every criminal offense, impose extremely long sentences for all crimes, or spend billions to make legal pursuits more attractive to criminal offenders? The answer is clearly "no." The gain

from implementing crime-control measures is the "damage" from crime that can be prevented, and if it could be prevented without cost, then wiping out all crime would pay.

But crime prevention, like so many other desirable things in life, has its price tag. To obtain less crime, resources must be shifted from other desirable uses. In addition, punishments may have to be imposed that are distasteful from a humanitarian standpoint. Hence, expanding the various areas of law enforcement or improving the legal opportunities of offenders can only be justified up to a point. As a general rule, it will pay to expand each measure designed to reduce crime only up to the point where the value of the additional crimes prevented just equals the increased cost or sacrifice associated with doing it. Beyond this point, reducing crime will simply not be worth the effort.

<sup>5</sup>Great care must be taken, however, in determining the relative punishments handed out for various types of crimes. If, for example, kidnapers are given the death penalty, then there is no increased punishment for kidnapers who also kill their victims. Clearly, the penalty structure is a very delicate creature.

## CONCLUSION

The decision to engage in criminal activity may indeed be rational for many different types of crimes. If this is true, as many economists believe, then determining what policies to pursue in the fight against crime can be made a little easier. Policies that either reduce the gain or increase the costs of criminal activity can be expected to reduce the number of illegal acts committed. This means that punishment, contrary to what many may believe, is justified up to a point. So, too, are police actions designed to increase the probability of being punished for a criminal act and perhaps also policies aimed at improving the legal opportunities of criminal offenders. Understanding the determinants of criminal behavior, along with the conditions that must be met in efficiently allocating scarce resources to the control of crime, can provide useful conceptual guidelines for the tough decisions that must be made in dealing with today's soaring crime rate.

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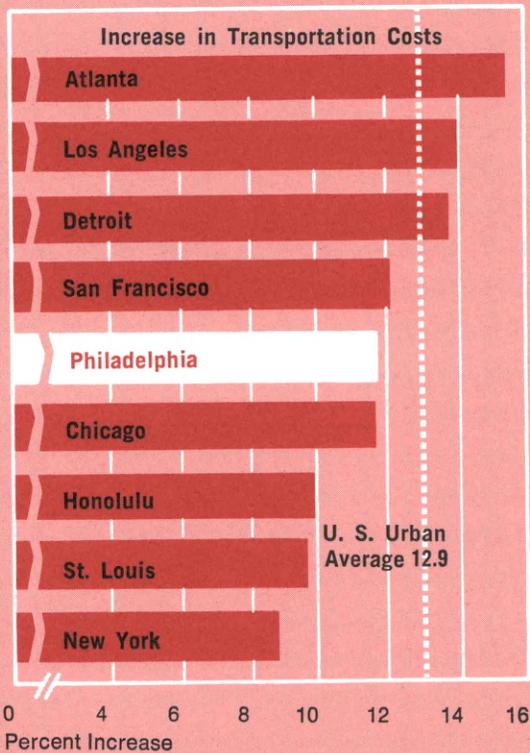
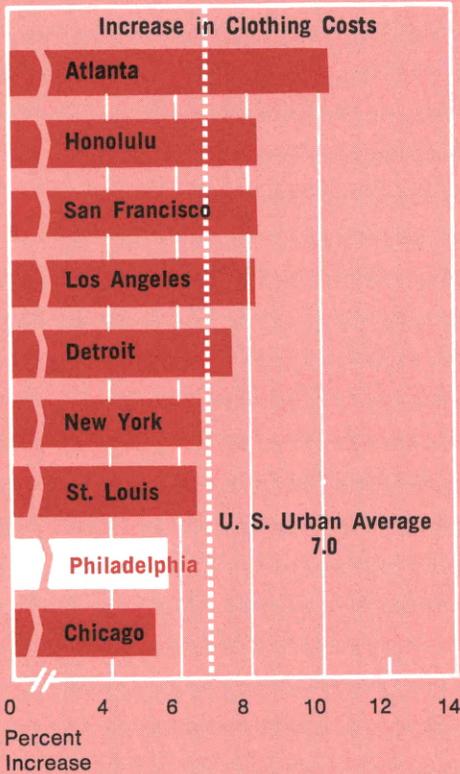
**PHILADELPHIA SINGS THE  
INFLATION BLUES**



By James J. Bacci and  
Robert H. Friedman

**CHART 1**

**IN THE PAST YEAR PHILADELPHIA AREA CONSUMERS HAVE BEEN BESIEGED WITH PRICE HIKES. AND WHILE PHILADELPHIA FALLS BELOW THE URBAN AVERAGE OF PRICE INCREASES FOR CLOTHING AND TRANSPORTATION . . .**



\* The CPI represents reporting cities from June 1973 to June 1974. The U. S. urban average is taken from 22 major U. S. SMSAs.

Source: U. S. Department of Labor, Bureau of Labor Statistics.

CHART 2

IT HAS BEEN AT OR NEAR THE TOP FOR THE TWO LARGEST EXPENDITURE ITEMS—FOOD AND HOUSING.

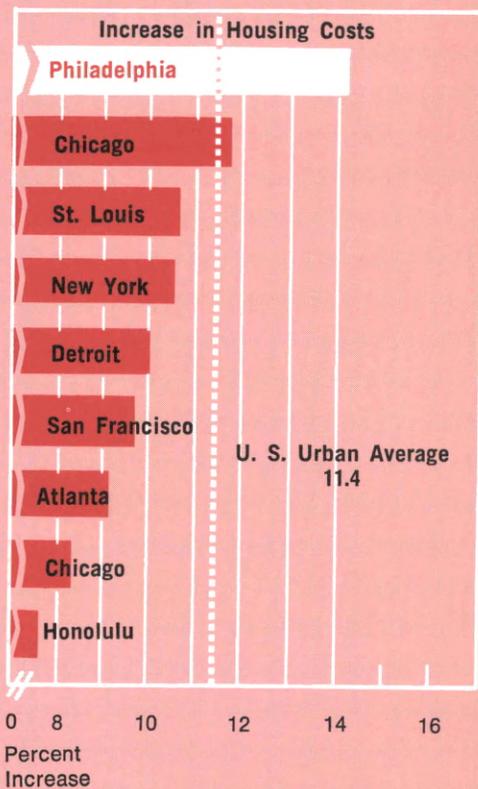


CHART 3

THE RESULTING NET INCREASE IN PHILADELPHIA AREA PRICES DURING THE PAST YEAR HAS BEEN 12.6 PERCENT, A RATE THAT FAR SURPASSES OTHER MAJOR URBAN CENTERS.

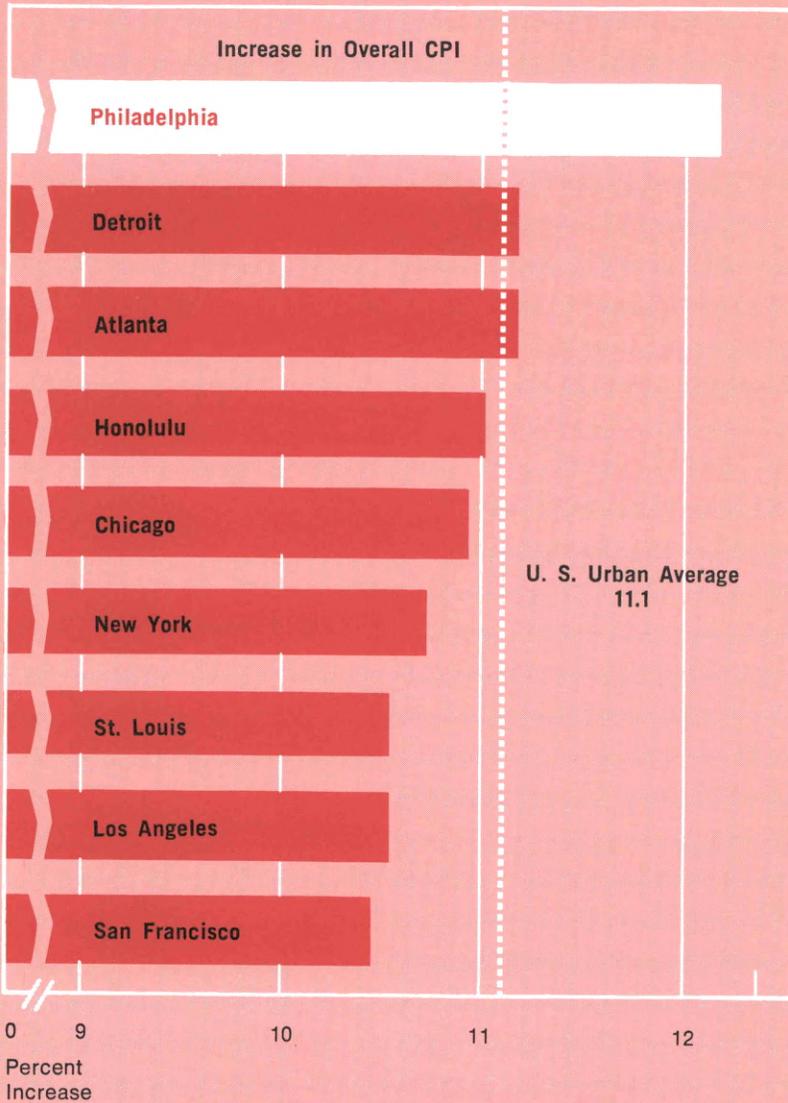
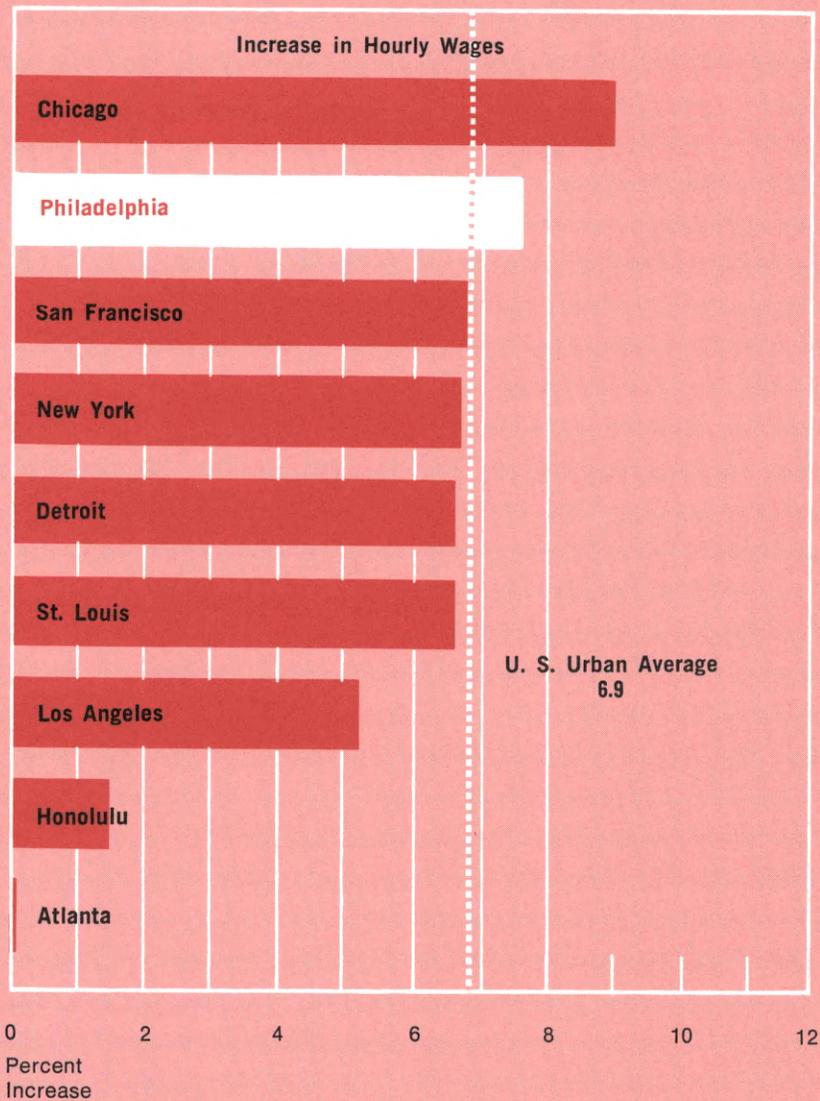


CHART 4

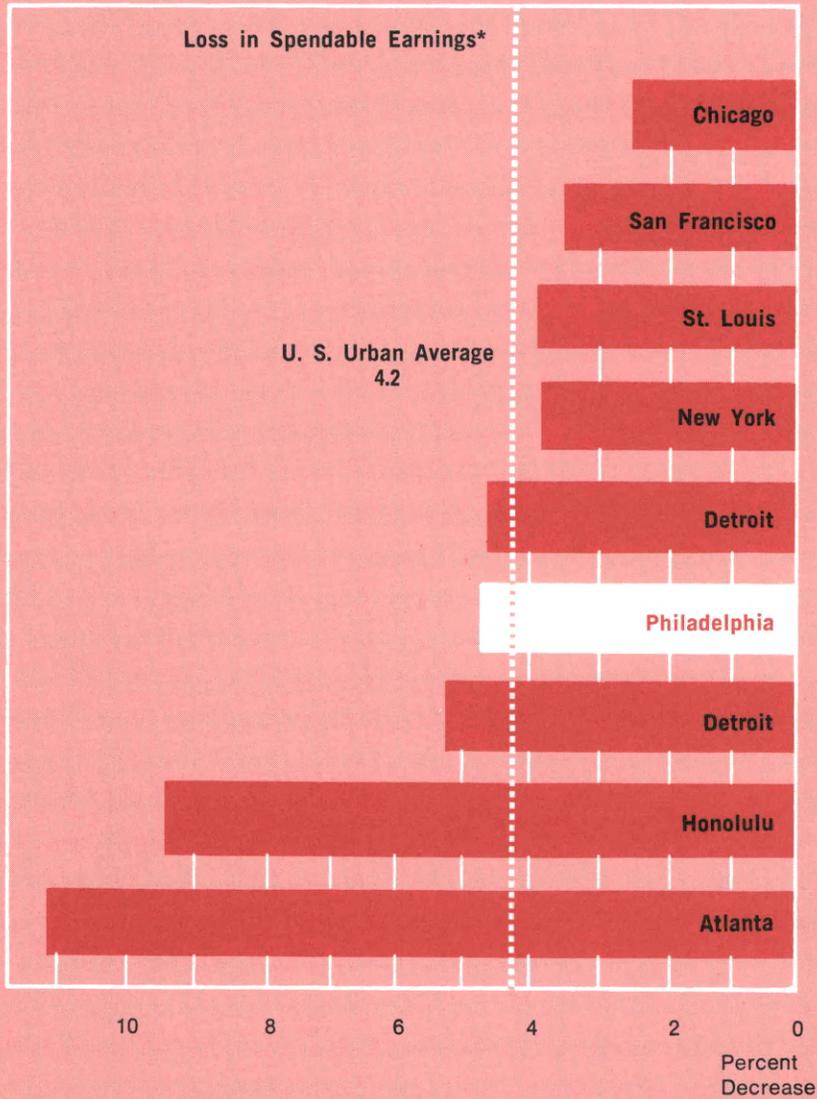
HOWEVER, WAGE HIKES FOR BLUE-COLLAR WORKERS\* IN PHILADELPHIA HAVE BEEN ABOVE THE URBAN AVERAGE . . .



\* Production Workers on Manufacturing Payrolls.

CHART 5

AND HAVE PARTIALLY OFFSET THE FAST-ERODING PURCHASING POWER\* OF BLUE-COLLAR WORKERS IN THE NATION'S BIRTH-PLACE.



\* Represents Difference Between Increase in CPI and Increase in Wages.

# Small Bank Survival: Is the Wolf At the Door?

By Jerome C. Darnell\* and Howard Keen, Jr.

Talk of changing a state's banking code by removing geographical barriers to branch operations or to permit multibank holding companies, and you're sure to evoke a storm of protest from operators of small, independent banks. They believe that opening the gates to statewide banking, either by branching or holding companies, will mean an early grave for their banks.

In many cases their concern stems from the conviction that they can't compete head to head with larger banks—especially those from a big city. They cite limited access to national money markets, disadvantages in efficiency of operations, and difficulty in attracting and holding top-notch management. A further contention is

that city banks will siphon funds from local communities to the money centers, thereby stifling the growth and progress of small communities. Finally, it's felt that liberalized branching laws will lead to an office of big-city banks in every hamlet, offering higher rates on savings and skimming the loan cream because they have larger loan limits.

Are these fears well-founded, or could they be a fear of the unknown because the status quo will be shaken? In other words, is there really a wolf at the door of the small banks?<sup>1</sup> Will the entry of a large city bank through the acquisition of a local competitor lead to the demise of the remaining independent ("surviving") banks in town now

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\*Associate Professor of Finance, University of Colorado. Research for this article was conducted while the author served as an economist in the Department of Research of the Federal Reserve Bank of Philadelphia.

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<sup>1</sup>For the sake of argument, let us assume a small bank is one with less than \$25 million in deposits. By this standard, nearly three out of four banks in this country would be considered "small banks." See *American Banker*, March 19, 1974.

that they are confronted with competition from a much larger institution? A look at 43 of these remaining independent banks in Pennsylvania suggests that, as a whole, their existence was not threatened when their local competitors were acquired by larger banks.

### PLUSES FOR BIG BANKS

The fear of small banks that they can't successfully compete with their larger rivals has some basis. Economic logic suggests that the concerns are real, but even in areas where big banks have the edge, smaller banks aren't helpless.

**Lower-Cost Banking.** Within a certain range, the average cost of producing various banking services is lower for a large volume of business than for a smaller volume. In other words, there are "economies of scale" that permit more efficient (lower-cost) operation by larger banks.

Such relative inefficiency can make it more difficult for small banks to compete. If it costs them more to provide various banking services, this will ultimately show up in higher rates on loans or lower rates paid on savings. Eventually, this will lead to relatively slower deposit growth and below-average profits. In short, they will be hard pressed to compete with more efficient banks.

But this isn't to say that only very large banks are able to enjoy these advantages of lower-cost operation. Studies of economies of scale in banking suggest that once a bank reaches a level of \$20 to \$25 million in deposits it has sufficient volume to be about as efficient as much larger banks.<sup>2</sup> So concern by the smallest of banks about economies of scale is well-founded, but banks around the \$20 million deposit level may have less to fear.

**Lending Ability.** In many cases, a branch office is less restricted in its ability to lend than an

independent bank of the same size. Larger banks normally make more loans per dollar of deposits, and they're in better shape to diversify the risks of business lending. Any branch office can fall back on the resources and lending ability of the parent bank, and this gives it more flexibility than an independent bank of similar size.

This doesn't have to be a handicap for independent banks, however. Their resources and lending talent can be augmented by interbank relationships such as loan participations with larger correspondent banks. Moreover, when smaller banks face expanded loan demand, excess reserves of other banks can be acquired through the Federal funds market. In this way independent banks can at least partially offset any increased lending flexibility enjoyed by their local competitors which have become branching offices of a larger bank.

**Capital and Money Market Competition.** Small banks can be at a disadvantage when competing for equity capital and for funds in national money markets. Since there is no active market for the stock of small banks, raising capital from sources outside their own service area may be difficult. Furthermore, the lack of nationwide connections and recognition that larger banks enjoy may preclude small banks from tapping the national money market. This doesn't mean, however, that small banks are shut out of the ball park. Small banks can tap the national money market through correspondent relations with larger banks.

**Management Succession.** Securing and retaining competent managerial talent can pose a real competitive problem for the small bank. Larger banks can attract talent by paying higher salaries and in turn can spread this overhead cost over a wider base. While this disadvantage can dampen the competitiveness of small banks, in many cases it's within their own power to alleviate this problem.

In general, closer investigation usually shows that many small banks have not gone all out to attract and retain high-caliber management. Often the management succession problem of

<sup>2</sup>Frank Wille, "The Community Bank in a Nationwide System," An Address before the 43rd Annual Convention of the Independent Bankers Association of America, San Francisco, California, March 21, 1973.

which small banks complain is the result of low salaries and the lack of fringe benefits commensurate with other types of employment. The days of providing a title in lieu of salaries are long gone in banking. The small bank that realizes this can and does compete successfully for managerial talent.

### PLUSES FOR THE SMALL BANK

While these structural advantages of larger banks can give them an edge over their smaller rivals, small independent banks by no means lack competitive clout. There are some very powerful forces working in their favor which can more than offset other competitive disadvantages.

**Local Personalized Service.** Many people are uneasy about "bigness," and when it comes to banking, they prefer to do business with a small, locally owned bank. The opportunity to deal personally with a bank officer is worth a lot to some bank customers, and they prefer this to dealing with a "manager" of a branch office. A local bank's president is generally a respected man in the community, and some bank customers get a big kick out of dealing with him on a "first-name" basis.

**Customer Loyalty.** Local personalized service is a product with a high degree of brand loyalty. This can be a powerful asset of the small independent bank, especially when customers are reasonably happy with the banking services they're getting there. It's doubtful that small differences in, say, rates paid on savings accounts will induce customers to switch banks. As Paul Nadler has remarked, "It is only when there are decided advantages at the larger unit that people decide that local loyalty means less than their pocketbooks."<sup>3</sup>

**Emphasis on Strong Points.** Larger banks can offer a wider range of services to their customers;

a small bank can't be all things to all people. But a small bank can specialize in personalized service, in helping to solve community problems, and in paying close attention to customer needs. In other words, though a small bank can't specialize in everything, it can remain competitively strong by tailoring its emphasis and specializing in those things it can do best. In short, by identifying and concentrating on their areas of strength, small banks can profitably survive, even in the face of heightened competition from larger banks.

**Live and Let Live.** Finally, there is a possibility that in many cases larger banks don't act in predatory ways against smaller rivals. It's been suggested that the large bank entering the market through merger with an existing bank may adopt a "live-and-let-live" attitude and may not attempt to go all out in competing for business in the local community.<sup>4</sup> To do so might eventually drive the smaller bank out of business, resulting in a predatory, monopolistic image for the large banks.

So despite some reasons for believing that the competitive odds are against small banks, there are other competitive factors that favor their survival. These factors may offset the negative ones, and often even tip the competitive scales in favor of the small bank. Only by looking at some actual experience can we get a better feel for the competitive strength of small independent banks.

### PERFORMANCE OF SURVIVING BANKS

When one bank is acquired by another the operating policies of the new acquisition are likely to be influenced by the parent bank's way of doing business. For example, the parent organization may have a different attitude toward asset mix, capitalization, prices charged, expenses or profitability. This could result in changes at the newly acquired bank that would

<sup>3</sup>Paul S. Nadler, "What Happens After the Acquisition?" *Bankers Monthly*, May 15, 1973, p. 11.

<sup>4</sup>See Paul M. Horvitz and Bernard Shull, "Branch Banking, Independent Banks and Geographic Price Discrimination," *Antitrust Bulletin* 14 (1969): 827-44.

make it substantially more competitive. If and when this happens, any marked change in the way the remaining independent banks operate could be a sign that they are feeling pressure from their renamed rival. For example, if the newly acquired bank begins paying higher rates on savings accounts, the surviving bank could find itself losing deposits. If the loss of deposits becomes severe, the surviving bank may feel the pressure to up its savings account rates.

An examination of the operation and performance of surviving banks after the takeover of a local competitor compared to before the merger can shed additional light on this question. Merger activity in the Pennsylvania portion (the eastern two-thirds of the commonwealth) of the Third Federal Reserve District between 1962 and 1970 provides a good testing ground for the question of small bank survival. In 43 cases, banks were acquired in towns with relatively few competitors.<sup>5</sup>

The acquiring banks in this sample were larger than both the banks they absorbed and the surviving bank, and their balance sheet structure was different from their newly acquired offspring. As compared with the banks they absorbed, the larger, acquiring banks in Pennsylvania had a substantially lower proportion of

their assets in the form of cash and U.S. Government securities and had lower capitalization ratios. By the same token, acquiring banks had higher loan-to-deposit ratios, the loan portfolios of the big banks being more heavily oriented toward consumer and business loans. After the merger, the acquired bank was part of a banking organization roughly ten times larger than the surviving bank.<sup>6</sup>

The operating performance of surviving banks was examined using a "before" and "after" comparison, a common practice in studying bank acquisitions.<sup>7</sup> Sixteen major banking ratios were selected for analysis—eight balance sheet ratios and eight ratios from the income and expense statement. It was assumed that three years would be sufficient time for postmerger impact to show up in the operating performance of the surviving banks. Consequently, the ratios were averaged for each of the 43 banks for the three years immediately prior to the year in which an outside bank entered the town through merger with another bank. In an identical way these same ratios were averaged for the three years immediately after the entry of the out-of-town bank.

Before these statistics could be compared, however, an adjustment had to be made. Changes in the way banks operated in the 1960s caused most of the ratios to move consistently in one direction or the other. In other words, there's a "time trend" in the industry which can cloud the issue in a before-and-after comparison. So before testing the significance of the differences, it was necessary to adjust the data to remove the effects of industry trends (see Appendix).

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<sup>5</sup>These banks were located in small towns ranging in population from 3,000 to 20,000. Twenty-seven of the banks studied were located in two-bank towns. After the acquisition of one by an out-of-town bank and its subsequent conversion into a branch office, only one independent (surviving) bank was left. Twelve banks were in (six) three-bank towns (two surviving banks after the merger of one) and four were in a five-bank town (four surviving banks after the merger). It is the independent bank that remains after its local competitor is merged that we are interested in studying. Such banks will be referred to as "surviving banks" from here on.

It would be desirable to examine the operating policies, asset structure, and profitability of the merged banks to see how they are affected once they are taken over by another. Unfortunately, in a merger the absorbed bank loses its previous identity. That is, its assets, liabilities, income and expenses are consolidated with its parent organization and it is not possible to track the individual performance of the newly established "branch office." The situation is just the opposite when holding companies make the acquisition. Individual banks are not consolidated with the parent. Thus, one can analyze the changes in operations of banks acquired by holding companies.

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<sup>6</sup>The average deposit size of the surviving banks was \$14.5 million. Only six had over \$25 million and none were as large as \$50 million. The average size of the out-of-town entrant was in the neighborhood of \$150 million.

<sup>7</sup>For a similar study using this technique, see Thomas E. Snider, "The Effect of Merger on the Lending Behavior of Rural Banks in Virginia," *Journal of Bank Research*, Spring 1973, pp. 52–57. For a suggestion of a more extensive methodology, see Rodney D. Johnson and David R. Meinster, "An Analysis of Bank Holding Company Acquisitions: Some Methodological Issues," *Journal of Bank Research*, Spring 1973, pp. 58–61.

**Balance Sheet Ratios: No Tipping of the Scales.** Table 1 gives an indication of the unadjusted average balance sheet ratios of surviving banks before and after the entrance of an outsider by way of merger. Minor shifts can be detected in most of the ratios. However, after adjusting for time trends, none of the shifts, either up or down, was large enough to be significant in a statistical sense.

While all of these ratios showed some change after a rival's merger, the observed changes were all so small that they would have to be attributed to chance or random influences. In a word, the balance sheet structure of small, surviving banks

did not change significantly after a local competitor was merged into a larger, out-of-town bank.

**Income and Expense Ratios: Coffers Unharmful.** Table 2 gives similar information about income and expense ratios. Here, as with the balance sheet ratios, once the figures were adjusted for time trends, no significant changes showed up in any of the ratios. To be sure, none of the ratios stood still since all but two moved upward after the takeover of a competitor. But by statistical standards, none of the ratios was different after the merger from before.

**TABLE 1**  
**AVERAGE BALANCE SHEET RATIOS OF**  
**SURVIVING BANKS BEFORE AND AFTER**  
**MERGER OF LOCAL COMPETITOR WITH**  
**LARGER, OUT-OF-TOWN BANK**

<b>Average Balance Sheet Ratios</b>	<b>Before Merger</b>	<b>After Merger</b>
<u>Cash Items</u>	10.0%	9.2%
Total Assets		
<u>U. S. Government Securities</u>	21.7	19.8
Total Assets		
<u>State &amp; Local Govt. Securities</u>	10.4	11.8
Total Assets		
<u>Total Loans</u>	61.1	60.8
Total Deposits		
<u>Real Estate Loans</u>	36.7	37.2
Total Loans		
<u>Consumer Loans</u>	22.9	25.5
Total Loans		
<u>Business Loans</u>	18.2	17.6
Total Loans		
<u>Total Capital Accounts</u>	10.9	10.0
Total Deposits		

**TABLE 2**  
**AVERAGE OPERATING RATIOS OF SURVIVING**  
**BANKS BEFORE AND AFTER MERGER OF LOCAL**  
**COMPETITOR WITH LARGER, OUT-OF-TOWN**  
**BANK**

Average Operating Ratios	Before Merger	After Merger
<u>Service Charges</u> Demand Deposits (IPC)	0.32%	0.34%
<u>Interest on Deposits</u> Total Time + Savings Deposits	3.0	3.4
<u>Interest and Fees on Loans</u> Total Loans	5.8	6.1
<u>Total Operating Expenses</u> Total Operating Income	76.5	78.5
<u>Total Operating Expenses</u> Total Assets	3.5	3.9
<u>Total Wages and Salaries</u> Total Operating Expenses	25.1	22.6
<u>Net Current Operating Income</u> Total Assets	1.1	1.1
<u>Net Income</u> Total Capital	7.5	7.8

**Deposits: A Key Indicator.** Growth in deposits is an important indicator of a bank's viability. The ability to attract and retain deposits is essential because they're the raw material of the banking business. In fact, it's been argued that the deposit growth rate is a reasonable proxy for the general quality of banking services.<sup>8</sup>

On this score, the acquisition of a local competitor by a larger bank had little effect on the ability of the surviving banks to attract and hold deposits. The before-and-after (three-year) averages of deposit growth rates of surviving banks indicate that there was no substantial speed-up or slowdown in these rates after the merger. Unadjusted deposit growth averaged 9.1 percent

<sup>8</sup>Robert J. Lawrence, *The Performance of Bank Holding Companies* (Washington: Board of Governors of the Federal Reserve System, 1967), p. 21. It would be desirable to compare deposit growth rates of surviving banks with those of their newly acquired rivals. Unlike balance sheet and income and expense data, deposits are available on a per-

office basis, but there's still a major problem. Wholesale transfers of deposits can and do occur between offices of banking organizations. Consequently, in terms of indicating the ability to attract and retain deposits, it's not clear how meaningful these branch-office deposit growth rates would be.

annually for three years prior to the merger, and registered a 10.5 percent annual clip for the three years following the takeover (the adjusted difference was statistically insignificant).

**Eyes Closed to Rival's Takeover?** Do these results indicate that surviving banks are completely oblivious to a rival's takeover by a larger out-of-town bank? Perhaps, but a more reasonable interpretation is that the competitive impact of the new entrant was not so potent that the surviving bank was forced to make dramatic changes in its operating policies. Undoubtedly, "changes" were made during this period. But they seem to be more heavily influenced by the economic and social factors which motivated change throughout the industry than by the entry of the new competitor. Accordingly, there's little apparent reason to believe that competition from an outside entrant is forcing small banks to the brink of extinction.

#### CAN SMALL BANKS SURVIVE?

The merger expansion of large banks into smaller communities does not appear to create insurmountable problems for smaller banks, according to an analysis of various banking ratios and deposit growth rates. To be sure, small banks do have problems that are inherent in their size, which may eventually lead to their selling out. But these are generally problems common to all

small banks and appear not to be aggravated by a larger bank's takeover of a competitor.

The small independent bank should be encouraged to compete vigorously with large banks. It provides a valuable alternative in the marketplace, and a means by which concentration of markets can be kept to a minimum. Furthermore, it offers a personal touch that is so often lacking in today's banking world.

Our look at surviving banks suggests that public policies on bank entry and expansion may need to be reviewed.<sup>9</sup> The argument is often made that geographical restrictions on banking operations are essential. It's charged that unregulated expansion by large banks will lead to "overbanking" and make it impossible for small banks to survive, resulting eventually in a few big banks dominating the scene. It's possible that legal restrictions on bank expansion have only fostered inefficiency and encouraged a lack of competitive spirit. By protecting those who are fully capable of competing, the public may be harmed economically by paying more for banking services.

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<sup>9</sup>For the view that caution is required with respect to regulations designed to "protect" smaller banks see Robert C. Holland, Member, Board of Governors of the Federal Reserve System, "Protecting and Not Protecting the Small Independent Bank," remarks before the Annual Convention of the Independent Bankers Association of America, Dallas, Texas, March 23, 1974.

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## APPENDIX

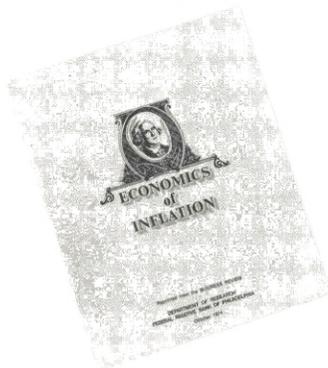
## STATISTICAL ADJUSTMENTS OF BANK DATA

Our sample consisted of 43 surviving banks. For each of the 16 ratios and deposit growth rates of each bank, averages were computed for three years before the merger and for three years after the merger. This gave us 43 "before-merger" averages ( $\bar{X}_B$ ) and 43 "after-merger" averages ( $\bar{X}_A$ ) for each ratio and the deposit growth rates.

However, it would have been improper to simply make comparisons of these statistics because changes had been taking place throughout the banking industry during this period. For instance, almost all of the banks in Pennsylvania had gradually decreased the proportion of U.S. Government securities in their asset portfolios, and had reduced their holdings of cash. Therefore, each of these 86 averages ( $\bar{X}_B$  and  $\bar{X}_A$ ) was adjusted to remove the effect of industry trends. This was done by subtracting from it the difference between the industry average at the time of the merger and this same average at the time of the 1962 mergers. Industry averages are those of all banks in the Pennsylvania portion of the Third Federal Reserve District with deposits of \$25 million or less.

For example, one surviving bank's average cash-to-assets ratio for the three years prior to a 1969 merger,  $\bar{X}_B$ , was 10.5 percent. The industry average ( $I_B$ ) for this same period was 8.6 percent while  $I_B$  for the 1962 merger period was 12.1 percent. So, on average this ratio declined 3.5 percentage points [ $I_B(1969)$  minus  $I_B(1962)$ ] during the period 1962 to 1969. This effect of industry trends (-3.5 percentage points) was removed by subtracting it from  $\bar{X}_B$ . The adjusted  $\bar{X}_B$  in this case is 14.0 percent (10.5 percent plus 3.5). If the industry trend had been upward (that is, +3.5 percentage points) this would have lowered  $\bar{X}_B$  to 7.0 percent.

For each ratio and the deposit growth rates, the 43 adjusted  $\bar{X}_B$ s and 43 adjusted  $\bar{X}_A$ s were averaged to obtain final "before" and "after" averages. The significance of the differences between these averages was checked through the use of t-tests. The implied assumption is that the "after" ratios may be different from the "before" ratios because of the influence of a rival's merger or because of time trends. By testing the adjusted "before-and-after" ratios it's assumed that any significant differences are solely because of the rival's merger and its subsequent influence on the surviving bank's behavior. 



Inflation is currently a major problem facing the U. S. Can policymakers curtail it? If so, how much will their actions "cost" society? Is inflation "bad," and if so, why? Are there ways of "living with inflation" that cushion its negative impact on the individual and society? Six articles reprinted from the Philadelphia Fed's *Business Review* address these questions in detail and seek to promote an understanding of the problem for both policymakers and the general public.

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